

Environmental and Social Accounting As An Alternative Approach To Conflict Resolutions In A Volatile and E-Business Environment

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Abstract

Profits and improvements in world social welfare are the main reasons for industrialization. However, while governments and business owners are striving to solve one social problem or the other, these same solution processes scoop up other problems along the line which inadvertently breed conflicts and confrontations between the host communities and the owners and operators of the organizations attempting the solution. This is the position which most oil producing companies in the Nigerian Niger Delta region as well as some manufacturing concerns have found themselves. In E-Business, market domination and monopolistic trade practices have pitched major world players in the information and communications technology industry against one another, engendering yet another type of social conflict. This paper believes that a lot could be done to douse the resulting conflagration and pacify those directly affected by applying palliative and preventive remedies using the process of environmental and social accounting aspects of corporate social responsibility (CSR) policies as a tool.

Introduction

If we are to go by the dictionary definition of war, it will be unambiguous to classify every dispute situation as one. To be precise, the Encarta virtual dictionary defines war as “*a period of hostile relations between countries, states, or factions...*”; it also went further to include “*a serious struggle, argument, or conflict between people*” as part of war.

The Niger Delta “oil war” (courtesy of Cable News Network [CNN]) metamorphosed at first from mere communal agitations for job placements, social amenities and compensations for damaged economic resource sustenance factors (a preventable situation) to a hydra-headed monstrous regional conflict. This worrisome degeneration resulted from a build-up of insensitive attitudes of successive governments at both states and federal levels as well as from uncaring mentality of the private operators of the concerned firms on the plight of those whose resources and land were target of the invading army of economic exploiters in the name of oil explorers. The plain truth remains that the Niger Delta conflict which in all ramifications qualifies to be called a war started as a result of careless and humanly degrading approach to oil exploration with lots of damaging effects on the ecosystem of the region since the first oil well commenced operation at Oloibiri in 1956. The damages done to both farmlands and fresh water rivers and streams by avoidable spillages and gas flaring are unquantifiable and this, of course, has contributed or led to the ubiquitous environmental degradation which, perhaps, is the greatest challenge ever faced by the dwellers of planet earth. This phenomenon which manifests in the form of ozone layer depletion, pollution of farm lands, rivers and lakes, acid rains, deforestation, desertification, and uncontrolled industrial emission of carbon dioxide (CO₂) pose greater biodiversity problems and

concerns than the fear of a nuclear war. This is because while a nuclear war may not be a feasible reality due to the fact that its occurrence or not can be controlled by political emotions/decisions, environmental degradation is a continual and gradual process engendered by our collective actions and efforts to survive as humans as well as advance our civilization. In other words, environmental degradation is indeed a necessary evil. This is more appropriately captured in the words of Bjorn Lomborg in the BusinessDay of Wednesday July 15, 2009 as follows:

...although CO2 is heating the planet and depleting the ozone layer, nobody emits CO2 for fun. CO2 emission results from other generally beneficial acts... for instance, hundreds of new coal-fired power plants that will be opened in China and India in the coming years would lift a billion people out of poverty.

Of course, while we talk of physical damage to the earth's atmosphere by oil production and other biodegradable activities, we should also cast our minds towards real but somewhat obscure environmental and economic hazards associated with the information and communication technology (ICT) devices and strategies employed in e-business environment which equally has the same degree of potency in breeding conflicts between operators in the field and others or even among themselves.

The questions that should come to our minds now, are:

- *Should we allow a few to obtain greater benefits at the expense of the well-being of others?*
- *Should we allow a few whose only crime is having to be domiciled where beneficial and world changing economic resources are deposited by nature to suffer and die in penury?*
- *Is it right for us to use others as sacrificial lambs just for economic and technological advancement?*

These posers should serve as objects of reminiscence in our attempt to deal with conflict situations arising from economic decisions and considerations.

Background

Recognizing the fact that environmental degradation results from our collective and uncoordinated actions towards achieving differing beneficial objectives, we are duty bound to ensure that their negative effects are mitigated and as such, we must be concerned with developing effects reduction strategies across board and since the adverse effects of degradation in whatever form recognizes no political boundary, international collaboration is necessarily required to enable such strategies/policies to function.

According to Field and Field (2002), little was recognized of the environmental depletion and degradation to the environment until a few well meaning people in the developed countries realized that it was no good having great corporate profits and material well-being if they come at the cost of large scale destruction of the ecosystem by which we are nourished. It became clear that degradation, pollution and accelerated destruction of the ecosystem and the depletion of non-renewable environment biodiversity would soon become very dangerous to human existence. They conclude that, “what once were localized environmental impacts, easily rectified, have now become widespread effects that may very well turn out to be irreversible”.

Following from the above introduction, the objectives underlying this discuss include:

- to demonstrate that environmental accounting creates a process that holds corporations to account
- to examine the liberal structures on which modern environmental accounting stands

- to determine whether modern communitarian thought can enrich the democratic process which fosters debate and dialogue concerning the role of corporations and their impact on nature

Lehman (1999) refers to communitarianism as a political movement which challenges the assumptions of modern liberal models that have been used to support and develop environmental and social accountability frameworks. He argues that the strict liberal accountability frameworks perpetuate the *status quo* by simply providing additional information to stakeholders without critically investigating what corporations are doing to the natural environment. The relationships between strict liberal accountability frameworks and stakeholder theory perpetuate an instrumentally conceived understanding of the role of accounting. In the copious literature on modern environmental and social accounting a distinct strict procedural and liberal democratic discourse exists which accords corporations a privileged position as the agents of social change (see Canadian Institute of Chartered Accountants, 1992; Accounting Standards Board: Australian Accounting Research Foundation, 1997)

The term 'communitarian' is commonly used to represent that body of literature which is critical of contemporary procedural and instrumental conceptions of liberalism.

Conflicts In E-Business Environment

IBM, which was one of the first suppliers to use the term in 1997 to promote its services defines e-business as follows:

"e-business is the transformation of key business processes through the use of Internet technologies" (www.ibm.com/e-business).

The key business processes referred to in the IBM definitions are the organizational processes or units. They include research and development, marketing, manufacturing and inbound and outbound logistics, the buy-side e-commerce transactions with suppliers as well as the sell-side e-commerce transactions with customers.

The term E-business is used in two main ways within organizations. The first is as a concept which can be applied to strategy and operations. The second is as an adjective to describe businesses that mainly operate online, i.e. they have no physical presence on the high-streets and seek to minimize customer-service and support through enabling 'web self-service'. Examples of firms in e-business include Amazon (www.amazon.com), eBay (www.ebay.com), Yahoo, Google etc.

E-commerce

In the words of Chaffey (2008), electronic commerce (e-commerce) is often thought simply to refer to "*buying and selling using the Internet*"; people immediately think of consumer retail purchases from companies such as Amazon when e-commerce is measured. But e-commerce involves much more than electronically mediated financial transactions between organizations and customers. Other commentators refer to e-commerce as *all electronically mediated transactions between an organization and any third party it deals with*. By this definition, non-financial transactions such as customer requests for further information would also be considered to be part of e-commerce.

When evaluating the strategic impact of e-commerce on an organization, it is useful to identify opportunities for buy-side and sell-side e-commerce transactions since systems with different functionalities will need to be created in an organization to accommodate transactions with buyers and with suppliers. **Buy-side e-commerce** refers to *transactions to procure resources needed by an organization from its suppliers*. **Sell-side e-commerce** refers to *transactions involved with selling products to an organization's customers*. So e-commerce transaction between organizations can be considered from two perspectives: *sell-side from the perspective of the selling*

organization and buy-side from the perspective of the buying organization (Chaffey, 2008).

Issues and Controversies

Conflicts may arise from either between sellers and buyers of virtual goods or between competitors. Most conflicts that have arisen in the past between sellers and buyers had to do with faulty merchandise which are easily resolved by either replacement downloads or refunds. But the most worrying area of conflict in e-business is that of competitors. This is the area of e-business replete with volatility engendered by cut-throat competition between the major players in the e-business arena such as Yahoo, Google, Microsoft, Netscape, Apple, iTunes and many others. Microsoft particularly had been severally accused and taken up by the United States government's department of trade on charges of unfair monopolistic competition. These actions were mainly induced by accusations and counter accusations of rival firms such as Netscape and Apple Computers which maintained that Microsoft had tried to unjustly dominate the internet browser production and vending business by bundling its Internet Explorer browser with its Windows operating systems. The fight was not limited to the United State alone, as Microsoft was also subject to many anti-trust litigations within the European Union countries. The perceived Microsoft monopolistic threat has brought about the emergence of many determined software producers and vendors through the process of mergers and forced acquisitions. Microsoft itself has tried unsuccessfully on many occasions to forcefully acquire a controlling interest in Yahoo in order to consolidate its lost and dwindling leadership position in the provision of a fast and highly patronized internet search engine, a position currently maintained by Google. The main object of

the fight in this case is the control of the billion dollar worth of worldwide internet adverts. Though these wars arising from conflict of business interests managed to produce a somewhat healthy competition amongst the gladiators which translated further into cheaper and more sophisticated/efficient virtual products, they nevertheless pose greater danger of bankruptcy, company failures, and job losses which are more likely to negatively affect employees and entrepreneurs of the firms that lost out in such situations. Further more, the US Department of Trade has equally maintained that the monopolistic attitude exhibited by Microsoft if continued unchecked can have dire consequences on other players in the virtual market field and prevent their positive contribution to the national economy. Apart from the hazards of job losses, there are health hazards that can breed conflict between producers and users of ICT equipments. Though, there had been no known study to suggest that emissions from computer monitors, cell phones and other transmitting devices contribute to environmental problems, evidence abound of impairments to sight and bodily harm as a result of over exposure to some computing devices. A case in point is contained in a video recently circulated on the internet where a cell phone exploded and injured the user when he attempted to answer a call that came through during the process of charging. There have been many other cases like that. Therefore, there is the need for the integration of the environmental impact of computing equipments in the reporting process of ICT equipment manufacturers and e-business firms whose businesses are transacted through their devices. This will act as a caveat to susceptible users of the likely dangers of their over-exposure to or the misuse of such devices.

Legal Frameworks for Environmental Accounting

Since environmental protection has assumed priority in global polity of late, various national governments have enacted laws not only to stop and or regulate the rate of damage to the environment but also to ensure that those involved in environmental degradation take adequate remedial/mitigating action. In the light of this, various laws and regulations such as the Environmental Impact Assessment Act, 1992 and the Department of Petroleum Resources (DPR) Environmental Guidelines and Standards for the Petroleum Industry in Nigeria (EGASPIN: 2002) were enacted. These legislations mandated corporate managements to consider the environmental implications of all internal decisions of their managements and act as appropriate but sadly, require only voluntary disclosure in financial statements of environmental information on industrial emissions, degradations, industrial wastages and all activities which impact negatively on the environment.

At the global front, legislations were mostly tailored after various studies in environmental accounting such as the Ontario Hydro Full Cost Accounting (1993) and the AT &T Green Accounting of the U.S. Environmental Protection Agency (1993). Perhaps, the real attempt at regulation was made with the Kyoto Protocol of December 1997 which made it a requirement for corporate organizations to take into serious considerations, actions on corporate capital projects and investments which bother on the industrial green substance emissions (Carbon dioxide, Methane and Hydro fluorocarbons) and stipulated serious penalties for non-compliance

Since current requirement for reporting on environmental issues is voluntary, it is observed from most financial statements of corporate organizations that it has engendered disclosures of information which totally exclude environmental issues. At best where reported, are grossly inadequate. Environmental disclosures have become critically important to an informed public and financial stakeholders.

The United States Securities & Exchange Commission (SEC) has as requirement for listed companies, information impacting on the environment. This is also now the requirement for the European Union countries. Below are other sources of regulation guiding environmental accounting.

The United Nations' Protocols And Agreements On Environment

The list of protocols and agreements signed in the past and recent years by nations on regulating the environment are as follows:

1. The International Convention for the prevention of pollution from ships, in 1973 and 1978 but enforced in 1983
2. The Montreal Protocol on substances that deplete the ozone layer in 1987 and enforced in 1989
3. IMO resolution A 672 (16); International Maritime Organization (1989)
4. The Basel Convention (1989)
5. The Bamako Convention (1991) at the African regional level.
6. International Tropical Timber Agreement in 1994
7. The UN Framework Convention on Climatic Change in 1992 (Adopted in December, 1997)

8. Ottawa Convention on landmines in 1997
9. ASEAN Agreement on Trans-boundary haze pollution in 2002,

The Kyoto Protocol to the United Nations framework on Climate Change

Follow-up to the Montreal Protocol on substances that deplete the ozone layer, adopted in Montreal in 1987, the Kyoto Protocol which was adopted in December 1997 according to the Crown Copyright Treaty Series 6 (2005) centers on climate change and the implication to the world. The protocol has provided among others in Article 3 which reads in parts:

1. The Parties included in Annex I shall, individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of this Article, with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012. Annex A list of gases in Appendix 2
2. Each Party included in Annex 2 shall, by 2005, have made demonstrable progress in achieving its commitments under this Protocol.

Some important commitments under Article 2 Sec 1a:

Each Party included in Annex 1, in achieving its quantified emission limitation and reduction commitments under Article 3, in order to promote sustainable development shall:

a.) Implement and/or further elaborate policies and measures in accordance with national circumstances such as:

(i) Enhancement of energy efficiency in relevant sectors of the national economy;

(ii) Protection and enhancement of sinks and reservoirs of greenhouse gases not controlled by the Montreal Protocol, taking into account its commitments under relevant international environmental agreements; promotion of sustainable forest management practices, afforestation and reforestation;

(iii) Promotion of sustainable forms of agriculture in light of climate change considerations;

(iv) Research on, and promotion, development and increased use of, new and renewable forms of energy, of carbon dioxide sequestration technologies and of advanced and innovative environmentally sound technologies;

(v) Progressive reduction or phasing out of market imperfections, fiscal incentives, tax and duty exemptions and subsidies in all greenhouse

gas emitting sectors that run counter to the objective of the Convention and application of market instruments;

(vi) Encouragement of appropriate reforms in relevant sectors aimed at promoting policies and measures which limit or reduce emissions of greenhouse gases not controlled by the Montreal Protocol;

(vii) Measures to limit and/or reduce emissions of greenhouse gases not controlled by the Montreal Protocol in the transport sector;

(viii) Limitation and/or reduction of methane emissions through recovery and use in waste management, as well as in the production, transport and distribution of energy.

(Source: Treaty Series No.6:(2005:3-4): Kyoto Protocol to the United Nations Framework Convention on Climatic Change)

Accounting Guidance on Kyoto Agreement by Governments

Contained in a Press Release in December, 2004, the International Accounting Standards Board, IASB IFRIC (2004:3) states that:

1 In the light of the Kyoto Protocol described above, several governments have, or are in the process of developing schemes to encourage reductions in greenhouse gas emissions. The Interpretation focuses on the accounting to be adopted by participants in a 'cap and trade' scheme, although some of its requirements might be relevant to other schemes that are also designed to encourage reduced levels of emissions and share some of the features of a cap and trade scheme.

2 Typically in cap and trade schemes, a government (or government agency) issues rights (allowances) to participating entities to emit a specified level of emissions. (The government may issue the allowances free of charge or the participant may be required to pay for them). Participants in the scheme are able to buy and sell allowances and therefore, in many schemes, there is an active market for the allowances. At the end of a specified period, participants are required to deliver allowances equal to their actual emissions.

3 The Interpretation specifies that rights (allowances) are intangible assets that should be recognized in the financial statements in accordance with IAS 38 Intangible Assets. When allowances are issued to a participant by government (or government agency) for less than their fair value, the difference between the amount paid (if any) and their fair value is a government grant that is accounted for in accordance to IAS 20 Accounting for Government Grants and Disclosure of Government Assistance. As a participant produces emissions, it recognizes a provision for its obligation to deliver allowances in accordance with IAS 37 Provisions, Contingent Liabilities and Contingent Assets. This provision is normally measured at the market value of the allowances needed to settle it.

Source: [IASB IFRIC (2004:3): Press Release, December]

Environmental Accounting Implication arising from the Kyoto Convention

The issues on environment arising from the Kyoto Convention have further implications for need for compliance to regulations and for pollution prevention and environmental protection. Besides, the Convention touches on Carbon Allowances for nations and accounting valuation for Carbon Trading among trading nations and corporate organizations affected.

The Kyoto Convention is a follow-up on the Montreal Protocol on substances that deplete the ozone layer. Nations which have assented to Kyoto Protocol and consequently corporate organizations in these nations shall individually or jointly ensure that their aggregate anthropogenic carbon dioxide equivalent emissions and greenhouse gases do not exceed their assigned amount. The target is the reduction of overall emission to at least 5% below the 1990 levels in the commitment period 2008 and 2012.

In Cap and Trade scheme, governments issue rights or allowances to participating entities to emit specified level of pollutions. Emissions Trading (or Cap and Trade):

is an administrative approach used to control pollution by providing economic incentives for achieving reductions in the emissions of pollutants. A central authority (usually a government or international body) sets a limit or *cap* on the amount of a pollutant that can be emitted. Companies or other groups are issued emission permits and are required to hold an equivalent number of *allowance (or credits)* which represent the right to emit a specific amount. The total amount of allowances and credits cannot exceed the cap, limiting total emissions to that level. Companies that need to increase their emissions must buy credits from those who pollute less. The transfer of allowances is referred to as a trade. In effect, the buyer is paying a

charge for polluting, while the seller is being rewarded for having reduced emissions by more than was needed, (*Culled from Wikipedia: The free encyclopedia*).

EU Directive on Environmental Issues in Company Annual Reports and Financial Statements

As contained in Environmental Management Accounting, IFAC (2005:79), the European Commission in 2001, adopted a recommendation on recognition, measurement and disclosure of environmental issues in the annual accounts and reports of companies. This recommendation was to enable for reporting of high levels of environmental issues in annual accounts and reports of companies. Although EC recommendations were voluntary, but European Countries in 2003, have made the reporting of environmental issues in annual accounts and reports mandatory.

In analyzing Environmental Management Accounting (EMA) by IFAC (2005:79), Green Accounting in Denmark requires EMA material accounting in companies financial statements. Companies therefore, require in their reports the following:

- data on consumption of water, energy and raw materials:
- significant types and volumes of pollutants emitted to air, water and soil;
- significant types and volumes of pollutants in production processes, waste or products.

In Denmark, green accounting and corporate reporting environmental issues are increasingly pursued. The Enterprise Act of 1989 in Norway requires that Board of Directors' Report should include information on the levels of pollution emission, contamination and details on the measures undertaken or planned in the pollution prevention activity (Roberts, 1992; Salomone and Gallucio 2001:22)

Accounting for Environmental Degradation

Apart from the legal and political framework as enunciated above, the need to recognize the impact on the environment of business decisions is borne out of the fact that environmental degradation results from the quest for profits by various business organizations which engage in biodegradable activities such as oil exploration, chemical and solid mineral extraction, manufacturing, wood lumbering, CO₂ emissions from petrol, diesel and other fossil fuel powered machineries, and host of others. No doubt environmental degradation impacts negatively on the society and most responsible governments try to tackle the effects where remedial action is possible. Using oil exploration as an example, the probability that a spillage from operations will pollute farmlands and nearby rivers is always high and has been the case in the Nigerian Niger Delta since 1956. Most attempts to clear the pollution often result in expending huge tax payers' money. Now the question is:

1. Who actually should pay for environmental degradation?
2. How much should be deemed suitable for environmental degradation?
3. Why should someone pay for environmental degradation?
4. To whom should the payment for environmental degradation be made?

The need to provide answers to the above questions gave rise to what we now know as environmental accounting which has become the focus and concern of all nations and responsible corporate organizations.

To answer the first question, it is necessary to consider the fact that oil spillage and pollution emanates from the activities of private oil exploring companies whose motive is profit and not from government. It is unfair that in most cases tax payers money are used to clear up the mess were this is deemed necessary and usually without the consideration of the interest of those who were directly affected by the nuisance in the first place. This latter case is usually the bone of contention amongst the host communities of the oil explorers in the Nigerian Niger Delta. If we are to follow the course of equity and natural justice, it is only normal to hold the perpetrators of such nuisance responsible both for the cost of clearing and the cost of compensating the host community. It is the normal complacent attitude of the oil explorers to these issues that often times ignites conflicts.

To answer the second question, it is obvious that there will be a need for a periodic environmental impact assessment; and this is usually better done by a government agent such as the Federal Environmental Protection Agency using standardized equipments and monetary evaluation reference tables. This will produce detailed quantities of materials and monetary requirements for abatement, mitigation, and or compensation as it is necessary in each case.

The questions as to why should someone pay for environmental degradation can be provided with a myriad of answers. Chiefly among these is the fact that the direct benefits (i.e. profits) of the economic activities giving rise to the nuisance are exclusively the gains/rewards of the firm owners and not the public. Secondly, activities producing such nuisance usually entail that people close to the point of operations are either temporary or permanently displaced residentially and or occupationally during and even

after the completion of the firm's operations, and hence, should be re-settled or compensated accordingly.

The question as to whom the payment should be made should be answered from the perspective of the saying that *who wears the shoe knows where it pinches most*. The main cause of conflict in the Nigerian Niger Delta came from the provisions of the Nigerian Land Use Act (Decree) which vested all the interest and title of all lands within the boundaries of Nigeria and the resources therein on the Federal Government. This simply implies that all payments pertaining to land (royalties, rent and compensations) go to the Federal Government. Be that as it may, it is only fair to say correctly or incorrectly that the oil producing firms operating in the Niger Delta region have lived up to their responsibilities to the Federal Government, as we have been made to understand over the years; however, it is the Federal Government and the oil producing states of the south-south that have failed in their duty to apply wisdom in the disbursement of compensations and provision of social amenities to those communities affected by the hazards of oil and gas production. It is not as if the federal and state governments have done nothing in this direction, rather, it is only fair to admit that Nigeria ranks among those countries on planet earth with the best of laws and policies, the problem has always been on their judicious implementation. It is to the credit of the Federal Government of Nigeria that such bodies as the Oil and Mineral Producing Areas Development Commission (OMPADEC) and the Niger Delta Development Commission (NDDC) were established primarily to look after the interests of the oil rich Niger Delta in terms of development and provision of infrastructure especially to the affected host communities. In like manner, Delta State also complemented the federal effort by

establishing the Delta State Oil Producing Areas Development Commission (DESOPADEC). As laudable as these initiatives were, corruption, political considerations and general mismanagement never allowed them to achieve the desired objectives, hence, the general outcry that has culminated into ethnic militancy and general lawlessness. First, it was the Ogonis against the Federal Government in partnership with Shell Petroleum Development Corporation (SPDC) which eventually resulted into the unjustified execution of some of the activists including the fearless Ken Sarowiwa; then enters the movement for the emancipation of the Niger Delta (MEND) and lots of other mushroom agitators. The main lesson to learn from this is that though the government provided for adequate compensations for victims of environmental degradable oil activities in the Niger Delta, these never get to those truly affected and where they do, were always short of the victims expectations.

Environmental Accounting Defined

According to Wikipedia (the free encyclopedia), environmental accounting can be defined in any of the two ways below:

1. A report by the directors of a company that attempts to quantify the costs and benefits of that company's operations in relation to the environment.
2. The expression of uncoded environmental factors in financial terms, and the inclusion of these in conventional accounts, which can then be used as a measure of overall environmental welfare. For example, while an oil-spill actually increases national income in the short term, as the clear-up takes place, environmental accounting would assign a monetary value to the environmental costs, to be deducted from this increase.

H. E. Daly and J. B. Cobb (1989) used environmental accounting in calculating an index of sustainable economic welfare, which showed that GDP grew at 0.9%, in contrast to conventional GDP growth of about 2% a year.

Scope of Environmental Accounting

If we are to consider the true meaning and implication of environmental accounting especially as a conflict resolution tool, we must first take another look at the second definition as given above:

...The expression of uncosted environmental factors in financial terms, and the inclusion of these in conventional accounts.

Evidently, this definition simply implies that environmental accounting involves the conversion of a perceived estimate of damage to the environment into financial terms for the purpose of inclusion either as provisions or as compensations in the normal organizational financial statements. The reason for this is not farfetched. The world will be better for it if its environment is left undamaged; however, as has been posited earlier, the damage is *most often* of necessity rather than choice, owing to the enormous benefits of the activities fueling the degradation to our survival and advancement. For instance, unless an alternative source of energy is found to replace combustible refined petroleum products, CO₂ emissions from cars, trucks and machineries will continue to fight and deplete any vulnerable region of the earth's ozone layer. If a private enterprise is engaged in activities that degrade the environment such as oil exploration and chemical processing, it is only logical that such a company should bear the costs of mitigating such damages not only to the government but also to the host community where such degradation is most felt. Compensating the government

alone and ignoring the host community may lead to a breach of trust which might metamorphose into a precarious security situation such as is currently experienced in the Nigerian Niger Delta region.

Government organizations at various levels have interest in the full implementation of environmental accounting (EA) for various reasons. First, they use the EA data for making environmental based decisions within their own operations because the more private enterprises are able to recognize the financial benefits of resource conservation and environmental protection programmes and expenditures, the lower the financial, political and other burdens of environmental protection, regulation, and enforcement on them. In addition, implementation of EA should strengthen the effectiveness of existing government policies and regulations by revealing to companies the true environmental costs that those policies and regulations impose. Finally, business related EA data from private enterprises could also be useful to governments for trade/commerce policy design and decision-making.

According to the UNDS/DESA (2001), the 17 case studies considered on EA indicate that there are a wide variety of government and government-supported policies and programmes to promote EA. In most cases, government agencies with an environmental mandate are the primary actors, but other agencies are beginning to get involved. National governments especially in Europe and America have taken the lead in many of these activities, but the level of experience and activity at lower levels of government is increasing. Multi-nationals and other international organizations and

groups are also becoming more active in promoting the sharing of experiences and tools among countries.

The book-keeping scope of EA is first required to be generated as cost data which are then embedded as part of the production costs and apportioned/allotted over the number of items in the periods production volume sold and or held as stock, the corresponding credit entries are then passed via journal entries into the financial accounting ledger from where payments may be made either as compensation or special tax (or both) to the government and other beneficiaries. The most difficult and most confusing aspect of environmental accounting is the estimation of the extent of damage to the environment of the enterprise's environmental based operating activities; for instance, while it may be less difficult to establish physical damage of oil spillage to crops and farm lands, the reverse is the case for damage to marine life when such spillage flows into a river or other body of water. What about gas flaring? How do you quantify the damage to the ozone layer and the contribution to global warming of say, a gas flared from one oil well?

The Importance and Relevance of Environmental Accounting

Conventional corporate accounting does not normally give explicit, separate recognition to company related environmental impacts. Instead, it is mainly designed to satisfy the needs of different stakeholders (like the government, the public, the consumers, internet users, regulation agencies, tax authorities, shareholders, etc) seeking information about the economic performance of the company. Yet, from a pragmatic perspective, the critical test for any accounting system is whether it produces information that is useful to

particular stakeholders for evaluating their own ends (Chambers 1966, 54; Schaltegger and Burritt 2000, 45). Hence, different accounting systems should be designed to satisfy the fact that various addressees require different information. Different conventional accounting systems can be distinguished according to the main target audiences. Some stakeholders have a major concern with physical environmental impacts of corporate activities, whereas other stakeholders are mainly interested in monetary effects induced by the environmental impacts of the company. For instance, shareholders are interested in the monetary bottom line and may only be partially interested in a separate report containing pollution information expressed in physical units, even if it is put into a clear context with its monetary consequences, insofar as they affect the financial bottom line. Shareholders are interested in pecuniary information that shows material effects on shareholder value, including environmentally related impacts on the economic situation of companies. Environmental protection agencies and corporate environment managers (see Parker 1999), on the other hand, are interested in various waste and pollution figures expressed in physical units and generally have no direct interest in, for example, whether the costs of pollution abatement or waste reduction measures are capitalized or considered as expenses in the monetary account.

Unfortunately, the conventional approach to accounting tends to neglect the fact that information interests vary very much between different stakeholders. It is common to distinguish between at least two major target stakeholder groups in conventional accounting systems for companies: internal company addressees (e.g. management) and a fairly narrow range of external groups (e.g. shareholders, rating agencies and financial analysts). Internal and external accounting systems can be distinguished,

depending on whether the main purpose of the accounting system is to satisfy the information needs of either internal or external stakeholders.

Solutions and Recommendations

Since the primary objective of environmental accounting is to feed organizational managers and governments with monetary and physical data relating to the damages or likely degradable effects that their businesses and operational decisions might have on the earth's environment and the inhabitants, it is pertinent to ensure that such data/information is prepared in a way as to give proper decision-making guidance and as such should take into consideration such factors as may likely indicate:

- the overall effect of the organization's activities on the environment;
- whether the degradation is within the acceptable limit or in excess of it;
- the remedial/mitigating action articulated by the organization;
- the estimated remediation or mitigation costs and how such costs are captured and or borne by that organization;
- any compensatory scheme in the form of social responsibility payments to those likely to be most affected by the negative effects of the organization's activities, e.g. the host community;

Most of the conventions, pronouncements and legislations on environmental degradation have been primarily on the control and reduction on biodegradable activities of governments, organizations and individuals as stated earlier, none included the hazards of computing equipments and the adverse effects of uncontrolled operations in the e-business environment. Whereas, those that addressed the accounting aspect provided only for the disclosure of the levels of environmental

damage as a result of the organization's activities in the accounts. Very few, however, actually advocated for the inclusion of social responsibility in accounting for environmental degradation; this is the main contentious issue surrounding the bloody face-off between the Federal Government of Nigeria and the people of the Niger Delta. The framework for environmental accounting introduced in this discuss is a further step towards the development of this hitherto unknown area of accounting as well as remind corporate citizens whose profit seeking activities affect others who may not likely benefit from such activities (either directly or indirectly) of their responsibility towards protecting the right of existence of others. In view of the foregoing, this paper recommends as follows:

- For environmental accounting to holistically achieve the purpose of pacification and conflict resolution in a country like Nigeria and in a situation like that already subsisting in the Niger Delta region, legislation on environmental accounting should be modified to include the assessment of the impact of environmental degradation on a firm's host communities.
- There should also be an institution of a compensatory scheme on the basis of the assessment made to act as a palliative measure towards the eventual pacification of all concerned/affected. This scheme should be in addition to other payments as demanded by the government. The cost of such scheme in addition to other costs involved in the provision of additional corporate social responsibility (CSR) goods and services should be chargeable as part of production costs to the operating accounts, after all, they are bona fide costs

associated with the firm's operations so long as they are not arbitrary determined.

- In addition, the tax law should equally be modified to classify and allow such compensatory payments as tax deductible in order to further encourage the implementation of the scheme.
- Firms operating in e-business environment should make a resolute commitment towards perfecting their products before offering them for sale in order to prevent producer versus conflict situations.
- Likewise, a *use or return policy* or *refund if not satisfactory* and *free product upgrade* schemes should be used to pacify aggrieved customers.
- It is also important that all firms in the e-business environment endeavor to respect and abide by all anti-trust laws and minimize unfair stifling trade practices that could breed conflict of interests.

Future Research Directions

The views expressed in this discuss have been based mainly on the problems of the Niger Delta in Nigeria and some aspects of e-business situations. The main thrust is finding alternative solutions where there seems to exist some bottlenecks in the implementation of an already established line of action especially as relating to mitigating the adverse effects of an overall beneficial activity. Further research is needed from the perspective of other regions of the world with similar or other volatile business situations in order to fully understand the main import of the views herein.

Conclusion

Most traditional scholars on the subject of conflict resolution usually maintain that the more successful approaches to conflict resolutions are those hinged on a ***win-win*** philosophy. This is exactly what this discuss is advocating as a solution in a volatile business environment like the oil and the e-business industries. Modifying the usefulness and expanding the scope of environmental accounting to include compensatory schemes for directly involved parties through amendments to existing laws will no doubt reduce the incidence of frictions between the producers of wealth and life improving goods and the general public.

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Key Terms and Definitions

- **Conflict:** A dispute between parties
- **Corporate Social Responsibility:** A scheme of public relations activities which may include the provision of social goods and scholarship awards by firms as a way of reaching out to their host communities.
- **Host Communities:** These are towns or villages within or surrounding the operations base of a firm.
- **Niger Delta:** The southern part of Nigeria hosting the River Niger estuaries where the country's most oil deposits are found.
- **Monopolistic Trade Practices:** A practice through which one party tries to monopolize the production and distribution of goods and services using the advantage of compelling marketing and trade prohibition strategies.
- **Gas flaring:** The practice of disposing off unneeded hydrocarbons in oil wells through the process of burning.

- **CO2 Emission:** The release into the atmosphere of carbon dioxide.
- **Biodegradation:** Damage done to the environment from environmentally harmful activities with the potentiality of disturbing the ecosystem or biodiversity of an area.
- **E-Business:** The transaction of businesses through the use of the internet.
- **ICT Devices:** These are computing and transmitting equipments and cell phones used in the conduct of ICT businesses.
- **ICT:** Information and communications technology.
- **Stakeholders:** Those likely to be concerned or affected by the activities of an organization such as government agencies, consumers, the public, other regulatory agencies, etc.
- **Win-Win Philosophy:** A negotiating or conflict resolution ideology which tends to find a common ground for settlement between parties in dispute such that no party will feel unnecessarily shortchanged at the end.